

**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the subject application.

1. (Currently Amended) A display device comprising:

a display panel ~~which is equipped with pixels~~ having a pixel portion including a first light-emitting element;

a temperature detection unit which detects temperature, the temperature detection unit including a second light-emitting element;

an A/D conversion circuit which converts the temperature into digital data;

a storage unit in which a temperature characteristic and an aging characteristic of the first light-emitting element are stored, wherein the temperature characteristic comprises an acceleration factor corresponding to each detected temperature;

an arithmetic operation unit which calculates a lighting period of each pixel using the digital data, the temperature characteristic, and a digital video signal;

a count unit which counts a cumulated lighting period of each pixel using an output of the arithmetic operation unit; and

a correction unit which corrects the digital video signal to be inputted to each pixel using the aging characteristic and the cumulated lighting period, and supplies the corrected digital video signal to the display panel,

wherein ~~at least the pixel portion and the second light-emitting element the display panel, the temperature detection unit, the A/D conversion circuit, the storage unit, the arithmetic operation unit, the count unit and correction unit~~ are formed over a same substrate.

2. (Previously Presented) A display device according to claim 1, wherein the arithmetic operation unit calculates an acceleration factor from the digital data and the temperature characteristic and calculates the lighting period of each pixel from a multiplication of the digital video signal and the acceleration factor.

3-6. (Canceled)

7. (Currently Amended) A drive method for a display device having a display panel ~~equipped with pixels having a pixel portion~~ including a first light-emitting element, a temperature detection unit including a second light-emitting element, a storage unit in which a temperature characteristic and an aging characteristic of the first light-emitting element are stored, an arithmetic operation unit, a count unit and a correction unit, wherein at least the pixel portion and the second light-emitting element ~~the display panel, the temperature detection unit, the A/D conversion circuit, the storage unit, the arithmetic operation unit, the count unit and~~ correction unit are formed over a same substrate, comprising the steps of:

detecting temperature by the temperature detection unit;

converting the temperature into digital data by A/D conversion circuit;

calculating a lighting period of each pixel using the digital data, the temperature characteristic, and a digital video signal by the arithmetic operation unit, wherein the temperature characteristic comprises an acceleration factor corresponding to each detected temperature;

counting a cumulated lighting period of each pixel using an output of the arithmetic operation unit by the count unit;

correcting the digital video signal to be inputted to each pixel using the aging characteristic and the cumulated lighting period by the correction unit; and

displaying an image using the corrected digital video signal by the display panel.

8. (Previously Presented) A drive method for a display device according to claim 7, wherein the arithmetic operation unit calculates an acceleration factor from the digital data and the temperature characteristic and calculates the lighting period of each pixel from a multiplication of the digital video signal and the acceleration factor.

9-12. (Canceled)

13. (Currently Amended) A display device comprising:

a display panel ~~which is equipped with pixels~~ having a pixel portion including a first light-emitting element;

a temperature detection unit which detects temperature, the temperature detection unit including a second light-emitting element;

an A/D conversion circuit which converts the temperature into digital data;  
a storage unit in which a temperature characteristic and an aging characteristic of the first light-emitting element are stored, wherein the temperature characteristic comprises an acceleration factor corresponding to each temperature of the detected temperature;

an arithmetic operation unit which calculates the acceleration factor using the digital data and the temperature characteristic, calculates a lighting period of each pixel using a digital video signal and calculates a corrected lighting period of each pixel using multiplication of the lighting period and the acceleration factor;

a count unit which counts a cumulated lighting period of each pixel using an output of the arithmetic operation unit; and

a correction unit which corrects a digital video signal to be inputted to each pixel using the aging characteristic and the cumulated lighting period, and supplies the corrected digital video signal to the display panel,

~~wherein at least the pixel portion and the second light-emitting element the display panel, the temperature detection unit, the A/D conversion circuit, the storage unit, the arithmetic operation unit, the count unit and correction unit are formed over a same substrate.~~

14-16. (Canceled)

17. (Currently Amended) A drive method for a display device having a display panel having a pixel portion including a first light-emitting element, a temperature detection unit including a second light-emitting element, a storage unit in which a temperature characteristic and an aging characteristic of the first light-emitting element are stored, a count unit and a correction unit, wherein at least the pixel portion and the second light-emitting element ~~the display panel, the temperature detection unit, the A/D conversion circuit, the storage unit, the~~

~~arithmetic operation unit, the count unit and correction unit~~ are formed over a same substrate, comprising the steps of:

detecting temperature by the temperature detection unit;

converting the temperature into digital data by A/D conversion circuit;

calculating an acceleration factor using the digital data and the temperature characteristic, a lighting period of each pixel using a digital video signal and a corrected lighting period of each pixel using multiplication of the lighting period and the acceleration factor by an arithmetic operation unit;

counting a cumulated lighting period of each pixel using an output of the arithmetic operation unit by the count unit;

correcting a digital video signal to be inputted to each pixel using the aging characteristic and the cumulated lighting period by the correction unit; and

displaying an image using the corrected digital video signal by the display panel.

18. (Canceled)